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EXAMINER	
PARK, CHAN S	

ART UNIT	PAPER NUMBER
2622	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/488,091	LILLAND ET AL.	
	Examiner	Art Unit	
	CHAN S PARK	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 12/11/03, and has been entered and made of record. Currently, **claims 1-22** are pending.

Response to Arguments

2. Applicant's arguments, see pages 10-15, filed 12/11/03, with respect to the rejection(s)of claim(s) 1-22 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Owa et al. U.S. Patent No. 6,348,971 and Bradshaw et al. U.S. Patent No. 6,264,295 under 35 U.S.C. 103(a).

Drawings

3. The drawings were received on 12/11/03. These drawings are acceptable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 10-13, 15-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owa et al. U.S. Patent No. 6,348,971 in view of Bradshaw et al. U.S. Patent No. 6,264,295.

4. With respect to claim 1, the Owa et al. reference teaches a method for monitoring at least one print consumable of a printing device, comprising:

a. Receiving a print job, wherein the print job includes an image file and a number pages representing the print job is to be printed (col. 4, lines 34-43);

b. Determining a requested print consumable amount defined as an amount (20-page document) of print consumable needed to render the print job (col. 7, lines 31-32);

c. Obtaining a remaining print consumable amount defined as an amount of print consumable that is loaded in the printing device (fig. 4 & col. 4, lines 60-65);

d. Comparing the requested print consumable amount to the remaining print consumable amount (col. 7, lines 23-38);

e. Interrupting rendering the print job (interrupting the print job by excluding the printers with insufficient remaining papers), prior to rendering the print job,

when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 1-5 & col. 7, lines 35-38);

f. Rendering the print job with the printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 7, lines 38-42).

Although the Owa et al. reference does not explicitly teach the method of printing multiple copies of the same image file, Examiner takes Official Notice that receiving a print job that includes a copy number representing the number of copies of the images files that are to be printed is well known and conventional in printing art. Further, the reference discloses a method of sorting and stapling. It is well known in the printing art that sorting and stapling methods are commonly used to organize the printed documents after multiple copes are made. Therefore, it would have been obvious to one skill in the art at the time of invention to implement the method of including a copy number representing the number of copies of the image file that are to be printed in the print job.

The Owa et al. reference does not explicitly disclose if the printing device is a compact disc printing device.

The Bradshaw et al. reference, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Owa et al. and Bradshaw et al. are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Owa et al. with the method of printing image data on CD of Bradshaw et al.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Owa et al. to Bradshaw et al. to obtain the invention as specified in claim 1.

5. With respect to claim 2, the Owa et al. reference further teaches the step warning the user that the print job cannot be completed (col. 6, lines 1-3). The message indicates that none of the printers can complete the print job.

6. With respect to claim 3, the Owa et al. reference further teaches the interrupting step comprising providing the user with an option of adjusting the copy number of the print job (col. 6, lines 3-5).

7. With respect to claim 4, the Owa et al. reference further discloses the print job including a print quality setting (double-sided printing option which reduces the number of papers for the print job) relating to an amount of print consumable used to print an image (col. 4, lines 17-26). Additionally, it discloses the interrupting step (e) comprising providing the user with the option of adjusting the print quality setting of the print job, whereby the requested print consumable amount can be reduced (col. 6, lines 1-5).

8. With respect to claim 5, the Owa et al. reference teaches the determining step (b) that further comprises determining a single print consumable amount defined as the

amount of print consumable needed to print a single copy of the image file, wherein the requested print consumable amount is determined by multiplying the single print consumable amount by the copy number (col. 7, lines 31-32). When user requests one page of image file to be printed, the printer inherently knows that the image file needs one sheet or one paper to render the print job. Thus, when the user requests 20 copies of same image to be printed, the printer inherently determines that it needs 20 sheets to render the print job. Additionally, when double-sided print function is requested on 20-page document, calculating the number of pages to be used in the print job, 10 pages in this case, is a well-known method in printing art.

9. With respect to claim 6, the Owa et al. reference further teaches the monitoring method wherein:

The determining step (b) further comprises calculating a maximum copy number (remaining paper amount inherently represents the maximum copy number) representing a maximum number of copies of the image file that can be printed based upon the remaining print consumable amount (remaining paper amount) and the single print consumable amount (col. 4, lines 60-65).

The interrupting step (e) comprises providing the user with at least one option selected from the group consisting of:

Adjusting the copy number of the print job to the maximum copy number; and

Adjusting the copy number of the print job to a number that is less than the maximum copy number (col. 6, lines 3-5).

The user is given with the option to change the print conditions including the number of print pages. Therefore, adjusting the copy number of the print job as claimed is inherently done based on the user's preference.

10. With respect to claim 7, the Owa et al. reference further teaches the monitoring method wherein the interrupting step (e) comprises providing the user with the option of adjusting the amount of print consumable that is available (col. 6, lines 3-5). Again, since the reference teaches the method of notifying the user the insufficiency of the remaining amount of papers, the user can choose to either change the print setting or add more papers to the printer. Additionally, after proper adjustments have been made, the updated the status information of the printer (col. 4, lines 13-17), would now show sufficient amount of papers to render the print job.

11. With respect to claim 10, the Owa et al. reference further discloses the monitoring method wherein the interrupting step (e) comprises providing the user with an option of canceling the rendering of the print job (col. 13, lines 1-4).

12. With respect to claim 11, the Owa et al. reference further discloses the monitoring method wherein the interrupting step (e) comprises providing the user with an option of rendering the print job without any adjustments (col. 7, lines 23-47). According to the reference, when one printer does not have enough papers to render the print job, the system automatically selects another printer to render the print job without any adjustments.

13. With respect to claim 12, the Owa et al. reference further discloses the monitoring method wherein the rendering step (f) further comprises updating the

remaining print consumable amount by deducting the requested print consumable amount (col. 4, lines 13-17).

14. With respect to claim 13, the Owa et al. reference further discloses the monitoring method wherein the rendering step (f) comprises:

Printing a single copy of the image file;

Deducting the single print consumable amount from the remaining print consumable amount (obtaining the most recent information *whenever necessary* in col. 4, lines 13-16); and

Repeating the last two printing steps and the deducting step until the print job is completely rendered.

Again, it is commonly known that the conventional printer prints one copy at a time until all print job is completely rendered. Since the status information can be obtained at any given time, it is inherent that single print consumable, a paper, is deducted from the remaining print consumable amount.

15. With respect to claim 15, the Owa et al. reference teaches a method for monitoring at least one print consumable of a printing device, comprising:

a. receiving a print job, wherein the print job includes an image file and a number pages representing the print job is to be printed (col. 4, lines 34-43);

b. determining a single print consumable amount for an image file of the print job defined as an amount of print consumable needed by the printing device to render the image file (col. 7, lines 31-32);

c. estimating a requested print consumable amount needed to render the print job by multiplying the single print consumable amount by the number of image files that are to be rendered (see the rejection for claim 5);

d. obtaining a remaining print consumable amount defined as an amount of print consumable that is available to the printing device (fig. 4 & col. 4, lines 60-65);

e. comparing the requested print consumable amount to the remaining print consumable amount (col. 7, lines 23-38);

f. interrupting rendering the print job (interrupting the print job by excluding the printers with insufficient remaining papers), prior to rendering the image file, when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 1-5 & col. 7, lines 35-38);

g. rendering the image file with the printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 7, lines 38-42);

h. updating the remaining print consumable amount by subtracting the single print consumable amount of the image file (see the rejection for claim 13);

I. determining whether the remaining print consumable amount has been exhausted (status monitor section that updates the status of remaining paper amount in col. 4, lines 11-13);

j. interrupting the rendering of the print job (interrupting the print job by excluding the printers with insufficient remaining papers), when the remaining

print consumable amount has been exhausted (it is inherent that the printer stops printing since there are no papers);

k. determining whether all of the image files of the print job have been rendered (col. 7, lines 41-42);

m. determining a single print consumable amount of another image file of the print job if all of the image files have not been rendered;

n. rendering the image file (col. 7, lines 38-42); and

o. returning to step (h).

Although the Owa et al. reference does not explicitly teach the method of printing multiple copies of the same image file, Examiner takes Official Notice that receiving a print job that includes a copy number representing the number of copies of the images files that are to be printed is well known and conventional in printing art. Further, the reference discloses a method of sorting and stapling. It is well known in the printing art that sorting and stapling methods are commonly used to organize the printed documents after multiple copes are made. Therefore, it would have been obvious to one skill in the art at the time of invention to implement the method of including a copy number representing the number of copies of the image file that are to be printed in the print job.

Also, referring to step m, it is inherent that the printer is made to receive other print jobs when one print job is done.

The Owa et al. reference does not explicitly disclose if the printing device is a compact disc printing device.

The Bradshaw et al. reference, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Owa et al. and Bradshaw et al. are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Owa et al. with the method of printing image data on CD of Bradshaw et al.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Owa et al. to Bradshaw et al. to obtain the invention as specified in claim 15.

16. With respect to claim 16, arguments analogous to those presented for claims 6 and 7, are applicable.

17. With respect to claim 17, the Owa et al. reference further teaches the monitoring method wherein the interrupting step (k) includes providing the user with at least one of a warning that the print job cannot be completed, an option of canceling the print job (col. 13, lines 1-4), an option of adjusting the remaining print consumable amount, and an option of rendering the print job (col. 6, line 3-5).

The user is given with the option to change the print conditions including the number of print pages. Therefore, adjusting the copy number of the print job as claimed is inherently done based on the user's preference.

18. With respect to claim 18, arguments analogous to those presented for claim 4, are applicable.

19. With respect to claim 20, arguments analogous to those presented for claim 15, are applicable.

20. With respect to claim 21, the Owa et al. reference further teaches the monitoring method wherein the image files of the print job relate to addresses (steps S47-S39 in fig. 11 & col. 13, lines 9-14). According to the reference, it teaches the method of getting the network addresses of the network printers. Therefore, it would have been obvious that the image file to be printed includes the network address of the selected printer for a proper data transmission. Without the network address, the image file would not be transmitted properly.

The Bradshaw et al. reference teaches the method of rendering the image files onto one of envelopes and labels (col. 5, lines 40-42).

21. With respect to claim 22, the Owa et al. reference discloses a system for monitoring print consumable of a printing device, the system comprising:

A computer having a processor (host computer 1), an I/O port connected to the printing device, and a memory (fig. 2);

A software application (col. 3, lines 30-31) executable by the processor and configured to prepare a print job and to communicate with the printing device, through

the I/O port, to render the print job, wherein the print job includes an image file and a copy number representing the number of copies of the image file that are to be printed (col. 4, lines 40-43); and

A print consumable monitoring module configured to:

Communicate with the software application and the memory;

Maintain a remaining print consumable amount representing the amount of print consumable currently available to the printing device in the memory (col. 4, lines 6-17);

Determine a requested print consumable amount defined as an amount of print consumable needed to process the print job (col. 7, lines 31-32); and

Compare the remaining print consumable amount to the requested print consumable amount (col. 7, lines 23-38);

Whereby the rendering of the print job is interrupted when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 1-5 & col. 7, lines 35-38).

Although the Owa et al. reference does not explicitly teach the method of printing multiple copies of the same image file, Examiner takes Official Notice that receiving a print job that includes a copy number representing the number of copies of the images files that are to be printed is well known and conventional in printing art. Further, the reference discloses a method of sorting and stapling. It is well known in the printing art that sorting and stapling methods are commonly used to organize the printed documents after multiple copes are made. Therefore, it would have been obvious to one skill in the art at the time of invention to implement the method of including a copy

number representing the number of copies of the image file that are to be printed in the print job.

Also, referring to step m, it is inherent that the printer is made to receive other print jobs when one print job is done.

The Owa et al. reference does not explicitly disclose if the printing device is a compact disc printing device.

The Bradshaw et al. reference, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Owa et al. and Bradshaw et al. are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Owa et al. with the method of printing image data on CD of Bradshaw et al.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Owa et al. to Bradshaw et al. to obtain the invention as specified in claim 20.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Owa et al. and Bradshaw et al. as applied to claim 7 above, and further in view of Itoh et al. U.S. Patent No. 6,603,567.

22. With respect to claim 8, the combination of Owa et al. and Bradshaw et al. teaches all the limitations cited in claim 7 but it fails to teaches that the print consumable is stored in a print cartridge.

The Itoh et al. reference, on the other hand, discloses a first cartridge for storing printing sheets (fig. 1) wherein the cartridge receives a filename for the first print cartridge (col. 5, lines 53-61) and saves the remaining print consumable amount of the first print cartridge in a memory (EEPROM 36) under the filename (col. 5, lines 42-52). It further teaches method of replacing the first print cartridge with a second print cartridge (new cartridge) having a remaining print consumable amount, and resetting the remaining print consumable amount to the remaining print consumable amount of the second cartridge.

It should be noted that each cartridge is distinct from one another since the cartridges are replaceable and the number of remaining pages and the size of recording paper in the cartridge are different. Therefore, when a new cartridge is installed to the printer (fig. 2) the central processing unit 31 reads all the information according to the present cartridge (col. 5, lines 8-10, 23-25). Additionally, since the cartridge is removable from the printer to be replaced with another new cartridge, the CPU 31 will inherently and automatically erase or reset the old cartridge information and read the

new remaining print consumable amount, printing sheets, from the EEPROM in the newly installed cartridge.

Owa et al., Bradshaw et al., and Itoh et al. are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of monitoring print consumable amount of a CD printing device taught by Owa et al. and Bradshaw et al. with the method of using a cartridge for a storing printing sheets taught by Itoh et al.

The suggestion for doing so would have been to provide a CD printer with a container or cartridge for storing recording medium that is capable of carrying out the information regarding the recording medium to the printer.

Therefore, it would have been obvious to combine all three references to obtain the invention as specified in claim 8.

23. With respect to claim 9, arguments analogous to those presented for claim 8, are applicable.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Owa et al. and Bradshaw et al. as applied to claim 1 above, and further in view of Springett U.S. Patent No. 5,636,032.

24. With respect to claim 14, the combination of Owa et al. and Bradshaw et al. teaches all the limitations of claim 1, but it does not explicitly teach the print consumable being one of ink, toner, colored dye ribbon, and wax based ribbon.

The Springett reference, on the other hand, teaches the method of monitoring the amount of ink remaining, method of calculating amount of ink utilized in printing a single copy, and method of determining the number of copies can be printed (col.4, lines 32-41, col. 5, lines 23-43).

Since Springett, the same field of endeavor of printing art, teaches the method of calculating amount of ink to the render the print job based on the amount of ink used in single copy job, it would have been obvious to implement the method of monitoring ink usage of Springett to the method of monitoring paper amount of combination of Owa et al. and Bradshaw et al.

The suggestion would have been to notify or warn the user if the print job can be completely rendered based on the remaining ink amount as well as the remaining paper amount.

Therefore, it would have been obvious to combine three references to obtain the invention as specified in claim 14.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Owa et al. and Bradshaw et al. as applied to claim 15 above, and further in view of Springett.

25. With respect to claim 19, arguments analogous to those presented for claim 14, are applicable.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chan S. Park
February 12, 2004

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